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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/806,344	03/23/2004	Henrikus Herman Marie Cox	081468-0308819	2197
909	7590	03/06/2006	EXAMINER	
PILLSBURY WINTHROP SHAW PITTMAN, LLP			KIM, PETER B	
P.O. BOX 10500				
MCLEAN, VA 22102			ART UNIT	PAPER NUMBER
			2851	

DATE MAILED: 03/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/806,344

Applicant(s)

COX ET AL.

Examiner

Peter B. Kim

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 January 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 March 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Applicant's arguments filed on Jan. 20, 2006 have been fully considered.

Drawings

Figure 1 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

- (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.
- (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, and 10-12 are rejected under 35 U.S.C. 102(b) as being anticipated by Takahashi et al. (Takahashi) (EP 1041607 A1).

Takahashi discloses in the abstract a lithographic apparatus, positioning system and a device manufacturing method comprising: a radiation system (LE) configured to provide a beam of radiation; a support structure (RS) configured to support a patterning device (R) that imparts

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said beam of radiation with a desired pattern; a substrate holder (WS) configured to hold a substrate (W); a projection system (PL) configured to project said patterned beam of radiation onto a target portion of said substrate; and a positioning system configured to maintain at least a first optical element (10A) and a second optical element (10B) in predetermined positions, said at least first and second optical elements being disposed in said radiation system and/or said illumination system, said positioning system comprising: at least one position sensor with interferometric displacement measuring device (25, 26) that directly measures a relative position of at least said first optical element relative to said second optical element, wherein said positioning system maintains said first and second optical elements in a predetermined relative position (para 0030-0066).

Claim Rejections - 35 USC § 103

Claims 5-9 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi et al (Takahashi) in view of Ota (6,549,270).

Takahashi discloses the claimed invention as discussed above; however, Takahashi does not disclose a reference frame relative to which the position of the first optical element is measured, first and second actuators and controllers to displace the optical elements, device to measure displacement of the substrate holder and the optical elements which are reflectors.

Ota discloses in Fig. 6, measuring device (MIF) for measuring the position of the first optical element relative to the reference frame, using control unit (MCS) to displace by controlling the actuators (CS), the measuring device to measure the displacement of the substrate holder (Fig. 7), and the optical elements which are reflectors (Fig. 6). Therefore, it would have

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been obvious to one of ordinary skill in the art at the time of the invention to provide the optical element and the measuring devices of Ota to the invention of Takahashi in order to obtain high quality exposure even if changes occur in the projection system as taught by Ota in col. 2, line 23-31.

Allowable Subject Matter

Claims 3, 4, 12, and 14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

None of the prior art of record teaches or discloses the optical elements with the rigid extension in combination with the limitations in claims 1, 2 or 11.

Response to Arguments

Applicant argues that Takahashi does not teach direct measurement of the relative position of the optical elements; however, para 0050 of Takahashi suggests that the sensors are located on the optical elements themselves and it would seem that the measurement taken by the sensor would measure directly the relative position difference.

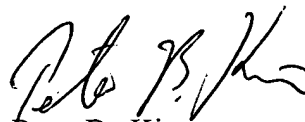
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter B. Kim whose telephone number is (571) 272-2120. The examiner can normally be reached on 8:00 AM - 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Judy Nguyen can be reached on (571) 272-2258. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read "Peter B. Kim", is positioned above the printed name.

Peter B. Kim
Primary Examiner
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February 28, 2006